

Shelton, Ralph
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8-30-03

Jerry Pell, Ph.D., CCM
 NEPA Document Manager
 Office of Electric Power Regulation
 Office of Fossil Energy, FE-27
 U. S. Department of Energy
 1000 Independence Ave., S. W.
 Washington, D. C. 20585

Dear Dr. Pell,

Thank you for the copies of the Tucson Electric Power Company Sahuarita-Nogales Transmission Line Draft Environmental Impact Statement (EIS) and the summary statement.

1 I strongly favor the No Action alternative. I am particularly concerned about the intrusion
 2 of the Western Route on Sycamore Canyon. Incidentally, the location of that canyon is not
 included in Figures 2.1-1, 2, and 3 of the main report. There is a gap in those figures. I was
 introduced to Sycamore Canyon in 1970 by a botanist working in the U.S. Geological Survey. He
 stressed the importance of that Canyon to knowledge of botanical conditions in the area.

3 The Summary document distinguishes between Issues Within Scope of the EIS and Issues
 Out of Scope. In the latter category, concerns about power generation in Mexico were
 considered to be speculative. However, I remember news programs about power generation on
 the Mexican side of the border south of San Diego and the transmission of pollution as well as
 electricity into the U.S. I must presume that transmission of electricity from generation plants in
 Mexico to the U.S.A. without environmental controls are a planned later step in the TEP scheme.
 I trust political and business interests have not had great influence on persons preparing the EIS,
 but such influence is all too common in our country today.

4 Considering the recent blackout in the Northeast portion of our country and concerns
 about how to fix the power grid (see the Christian Science Monitor cover story on August 19, 03
 and the editorial in the August 20 issues), I think the TEP proposal should be tabled until grid
 problems are resolved. The EIS, did not take into account ties between TEP and the larger grid
 let alone the possible influence of ties to Mexico on the grid. I would not have thought of that
 issue until the recent power crisis in the Northeast. However, I note that six commentators did
 express concern about the potential influence of the TEP proposal on the grid.

5 The need for the proposed project is not well established. The intent seems to be to
 encourage population growth in our area even though declining water supplies are already a
 concern.

Comment No. 1

The Federal agencies note the commentor's preference for the No Action Alternative.

Comment No. 2

Section 3.1, Land Use, discusses the affected environment of Pajarita Wilderness, which encompasses Sycamore Canyon. The structure locations, construction areas, and proposed access roads for all three corridors would not enter into Sycamore Canyon. Sections 3.3 and 4.3 discuss of the existing biological resources and potential impacts to these resources for each alternative.

Figures 2.1-1, 2.1-2 and 2.1-3 of the Final EIS show close-ups of the corridors in relation to certain towns, and are not meant to include the location of Sycamore Canyon. Refer to Figure 3.1-1, Specially Designated Areas on the Coronado National Forest, for a map showing the location of Sycamore Canyon.

Comment No. 3

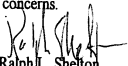
The Federal agencies do not have any information suggesting that any power plant construction in Mexico is reliant upon or otherwise connected to TEP's proposed project. Therefore, the potential for construction of power plants in Mexico is not a connected action and is not analyzed in Chapter 4, Environmental Effects, of the EIS.

Chapter 5, Cumulative Effects, of the Final EIS has been augmented to discuss the growth of electricity demand in Mexico and the United States and the potential for new power plants, and to describe qualitatively the potential impacts in the United States (including air quality impacts) from power plant construction in southern Arizona and Sonora, Mexico. Chapter 5 has also been revised to describe the regulation of power plants in Mexico (including coordination between the United States and Mexico), potential fuel sources, and associated emissions.

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6 | If, unfortunately, this project were approved and brought to pass, the Central Corridor is
1 | the logical one to use. Surely TEP favors the Western Corridor because there are fewer of us in
cont. | the area to raise concerns about that route. However, most of my concerns apply to all three
routes. Again, I favor the No Action alternative.

Thank you for considering my concerns.


Ralph L. Shelton
P. O. Box 578
Arivaca, Arizona 85601

Copy: Mr. John M. McGee
Forest Supervisor
U.S. Forest Service
300 West Congress
Tucson, Arizona 85701

Comment No. 4

As part of DOE's decisionmaking process on whether to grant a Presidential Permit for the proposed project, DOE will determine whether the proposed project will adversely impact the reliability of the U.S. electric system. Also, before authorizing exports to Mexico over the proposed 345-kV facilities, DOE must ensure that the export will not impair sufficiency of supply within the United States and will not impede, or tend to impede, the coordinated use of the regional transmission system.

Comment No. 5

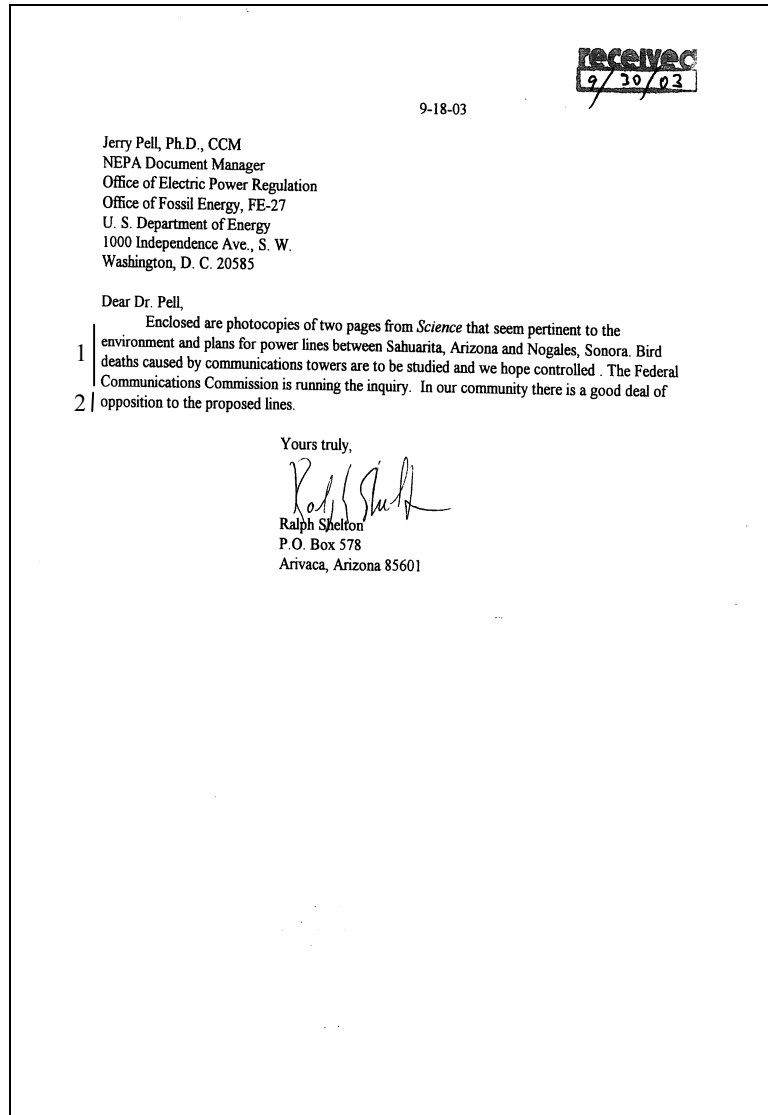
The ACC is vested with the state's authority to decide how it believes energy should be furnished within Arizona's borders (for example, the need for and effectiveness of transmission lines within its borders). Refer to the revised text in Section 1.1.2, The Origin of TEP's Proposal: TEP's Business Plan and the Proceedings of the Arizona Corporation Committee, that provides explanation of the jurisdictions and authorities of the state and Federal agencies, and their relationship to this NEPA analysis.

Whether or in what manner the proposed project may lead to development in southern Arizona is too speculative to be analyzed in the EIS.

Comment No. 6

The Federal agencies note the commentator's preference for the Central Corridor, if the proposed project is approved.

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Comment No. 1

As discussed in Section 4.3.4, Migratory Birds and Raptors, some mortality resulting from bird collisions within the transmission line corridor is considered unavoidable. However, anticipated mortality levels are not expected to result in long-term loss of population viability in any individual species or lead to a trend toward listing under the ESA for any of the proposed corridors. In order to minimize bird mortality, TEP would follow the guidelines outlined in *Suggested Practices for Raptor Protection on Powerlines: the State of the Art in 1996* (APLIC 1996).

Comment No. 2

The Federal agencies note the commentor's statement that there is a lot of opposition to the proposed project in the community.

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ORNITHOLOGY

High-Flying Science Seeks
To Reduce Toll at Towers

After years of debate about how best to reduce massive bird kills, researchers are beginning to receive funding to investigate solutions

Next spring, if all goes as planned, Bill Evans will spend his nights chasing migrating birds under cloudy Midwestern skies. Using bright lights that normally warn pilots away from tall communication towers, the independent scientist hopes to understand why flocks are drawn to deadly encounters with the spires and discover lighting schemes with less allure. It's the first significant research project to be spawned by a recent debate over the threat to birds from a growing thicket of towers, and—if successful—it could help reduce a massive avian death toll.

Ornithologists estimate that at least 4 million birds—mostly night-migrating warblers, vireos, and other songbirds—die annually at about 140,000 existing U.S. towers (Science, 16 March 2001, p. 2081). Conservationists worry that the toll will rise under plans to add thousands more towers to the landscape. But their pleas for studies that might identify solutions have gone largely unanswered. "It's been a Catch-22," says Ellen Paul, executive director of the Ornithological Council, a Washington, D.C.-based group that represents 10 major bird science societies. "Industry and [tower regulators] say they need better science to justify taking action, but then they won't fund the necessary studies."

Industry officials say it's partly a matter of finding money in a depressed economy. The Bush Administration also hasn't made it a priority. And some question whether tower kills are really a major problem: A host of other factors, from cats to habitat loss, are believed to kill far more birds. But bird advocates say that's no reason for inaction.

Some creative financing is now helping tower research get off the ground. The Evans study, for instance, will receive \$50,000 from the settlement of an environmental lawsuit in Florida. And conservation groups are lobbying Congress for more money. Environmental attorneys, meanwhile, are preparing a legal challenge that could force regulators to cough up more cash. The legal strategy has already prompted one state, Michigan, to mull funding research in order to settle one case.

Researchers say that there's no shortage of questions. Members of the Communications Towers Working Group, set up by the U.S. Fish and Wildlife Service (FWS) to

bring government, industry, and academia together, have called for a nationwide survey to refine tower kill estimates, which range from 4 million to 40 million birds a year. They'd also like to examine the conventional wisdom that the kills are limited, occurring primarily in eastern North America during the fall migration, and that the worst episodes—up to 12,000 birds in one night at a single tower—occur during overcast weather at towers higher than 75



Towering idea. Bill Evans wants to see if lighting changes can reduce bird carnage.

meters, often marked by red blinking lights. But answering such questions could cost millions of dollars and take years. So Evans decided to focus on a narrower issue: the impact of the red-and-white blinking lights that the Federal Aviation Administration requires on all towers over 65 meters. On misty nights, the warning lights attract birds, which often become confused and smash into tower girders and cables.

Evans, who runs Old Bird, a nonprofit research organization in Mecklenburg, North York, is working with a tower-lighting firm to build a rack of multicolored bulbs that blink at various rates and intensities. Instead of putting the lights on a tower and waiting for next fall's migration, Evans decided to "take the lights to

light box into the northern Midwest, where he expects to find plenty of spring migrants and overcast nights. Then he will monitor how the birds react to different lighting schemes, hoping to find one that could reduce collisions—but also meet federal visibility requirements and be inexpensive to install.

Other researchers are probing the underlying neurological reasons why some birds become confused when exposed to colored light. Ornithologists believe that night migrants typically navigate using the stars, but rely on Earth's magnetic field on overcast nights. But colored light can cause birds to become disoriented, suggest laboratory experiments by Roswitha and Wolfgang Witschko at Goethe University in Frankfurt am Main, Germany, and others. Red wavelengths, in particular, may interfere with vision-related pigments that also play a role in magnetic navigation, says Bob Beason of the University of Louisiana, Monroe, who has conducted similar work. The findings may explain "why towers with red lights seem to be a bigger problem," he says.

Further research might depend on some help from Congress. Representatives John Dingell (D-MI) and Edward Markey (D-MA) have proposed giving FWS \$350,000 for peer-reviewed studies already identified by the agency's working group. But budget squabbles in Congress may block that earmark.

Other groups are looking to regulators and the courts for help. They want FWS to prosecute the owners of especially deadly towers under migratory bird laws, and they are also pressuring the Federal Communications Commission (FCC), which licenses towers. Over the last few years, the American Bird Conservancy, Friends of the Earth, the National Wildlife Federation (NWF), and other groups have challenged FCC permits for thousands of towers. They want the agency to conduct better environmental studies and consider the cumulative impact of all towers on birds. FCC has so far rejected most challenges on technical grounds, setting the stage for a federal court battle. In the meantime, NWF is negotiating with Michigan officials over remedies for apparent legal violations in building 181 towers for emergency communications, including several sited squarely in migratory pathways.

Evans and other scientists would prefer to work voluntarily with tower owners and users to find acceptable solutions. But legal wrangling may be unavoidable. He adds, noting that it took the threat of court sanctions to convince the wind-power and power-line industries to pour millions of dollars into understanding how to make their facilities safer for birds.

—DAVID MALAKOFF

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nuclear weapons into secure storage abroad and endanger compliance with the Biological and Toxin Weapons Convention, says Marylisa Kelley, director of Tri-Valley CARES, who believes that biodefense work should be done by a health agency.

Activists are trying to block or slow down other proposed BSL-3 and BSL-4 labs at various sites around the country, including the University of California, Davis; the University of Texas Medical Branch in Galveston; and National Institutes of Health (NIH) facilities in Bethesda, Mary-

land. NIH is expected to increase when NIH awards the first of several major construction grants next month.

"There's more noise about this now than there ever was," says Karl Johnson, a former chief of the Centers for Disease Control and Prevention's Special Pathogens Branch and a consultant to several of the proposed labs. He predicts that lab managers and researchers elsewhere will be watching the DOE suit "very, very carefully."

—DAVID MALAKOFF
With reporting by Martin Ensrink.

PACETIME

Einstein 1, Quantum Gravity 0

For 5 years, physicists have hoped that a flaw in Einstein's special theory of relativity might reveal that space and time aren't smooth at the smallest scale, but fuzzy and foaming. Now, that tantalizing prospect has vanished in a puff of gamma rays. Two independent measurements of cosmic gamma rays show that Einstein was right after all—and that current plans to detect the foam are doomed. "The results rule out these possibilities on empirical grounds," says Floyd Stecker, a theoretical astrophysicist at NASA's Goddard Space Flight Center in Greenbelt, Maryland.

The frothiness of space and time is predicted by many theories that attempt to meld Einstein's theory of gravity and quantum mechanics. Physicists hoped to detect it by finding a hole in Einstein's dictum that it is meaningless to say an object is moving or stationary relative to the universe, a principle known as Lorentz invariance. One consequence of the principle is that all particles of light, or photons, travel through empty space at the same speed regardless of how much energy they pack.

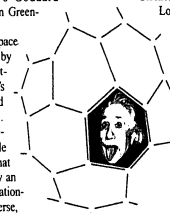
In recent years, however, various quantum gravity theories have suggested that Lorentz invariance might not hold. In that case, a photon's speed would vary with its energy, so that light of different wavelengths would travel at slightly different rates. That would make intuitive sense, says Giovanni Amelino-Camelia, a theoretical physicist at the University of Rome, La Sapienza. After all, when light flows through water or air, its speed depends on its energy; perhaps foamy spacetime has the same effect.

Researchers might spot the tiny differences in high-energy light that had traveled far enough for faster photons to pull ahead of slower ones. In 1998, Amelino-Camelia and colleagues suggested that astronomers scrutinize gamma ray bursts—enormous extragalactic explosions that last only seconds—for evidence that rays of different energy reach Earth at different times. Such data will be collected by NASA's Gamma-ray Large Area Space Telescope (GLAST).

But 2 years before the launch of GLAST, Stecker and others have shown that Lorentz invariance holds firm.

Stecker and colleagues studied gamma rays from the hearts of the galaxies Markarian 421 and Markarian 501, some 450 million light-years from Earth. En route the rays pass through a thin haze of infrared photons that fill intergalactic space. If Lorentz invariance were violated, the gamma rays would zip right through the haze. According to special relativity, however, the highest energy gamma rays should collide with the infrared photons to make electron-antilepton pairs. This process should soak up gamma rays above a well-defined cutoff energy—just what the researchers observed, Stecker reports in a paper to be published in the journal *Astroparticle Physics*.

Gamma rays from the Crab Nebula also bear out Einstein's theory, gravitation theorist Ted Jacobson and colleagues at the University of Maryland, College Park, report in this week's issue of *Nature*. The rays come from extremely energetic electrons spiraling in the magnetic fields inside the gargantuan cloud of gas. If Lorentz



Myth, maybe. Einstein's special relativity holds, so quantum gravity remains undetectable.

ScienceScope

Pacific Lab Debuts Fastest
Unclassified U.S. Computer

Chemists and biologists who need massive computing power now have access to a new unclassified machine that rivals those available to nuclear weapons scientists. This week, Pacific Northwest National Laboratory (PNNL) in Richland, Washington, brought online a Hewlett-Packard machine with a peak performance of 11.8 teraflops (trillion operations per second). That's a couple of trillion faster than IBM's Seaborg machine at the National Energy Research Scientific Computing Center in Berkeley, California, although it trails Japan's Earth Simulator (Science, 1 March 2002, p. 1631).

Any project that fits PNNL's missions in environmental and biological chemistry is eligible. Built from 2000 processors connected by 80 km of cables, the \$245 million computer eats up problems such as modeling protein folding and underground pollutants. "Chemistry is our bread and butter here," says Scott Stuehm of PNNL's Environmental and Molecular Sciences Lab.

The PNNL machine's reign as top U.S. unclassified peak performer promises to be brief, however. This fall, the National Center for Supercomputing Applications in Champaign, Illinois, will roll out a cluster that peaks at 17.7 teraflops.

—KATE GREENE

FCC to Probe Role of
Towers in Bird Deaths

Bowing to pressure from bird advocates, the Federal Communications Commission (FCC) has launched a major inquiry into the impact that the nation's 100,000 communications towers are having on bird populations. The agency last week began collecting public comment on everything from the quality of existing studies to ideas for new research.

Bird researchers estimate that towers—from short cell phone antennae to towering TV spires—kill at least 4 million birds per year (Science, 11 October 2002, p. 357). But it is not clear what factors, such as tower height and lighting, cause the deadly collisions. "There does not appear to be systematic research... regarding exactly how and to what extent, if at all, these factors contribute to any risk to migratory birds," says FCC, which is accepting comments until late this year with an eye toward better construction regulations.

Some observers are skeptical that the review will lead to more money for research. "Unless they generate new data, it's not answering the question," says Ellen Paul, executive director of the Ornithological Council in Washington, D.C.

—DAVID MALAKOFF

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9-29-03

Jerry Pell, Ph.D., CCM
NEPA Document Manager
Office of Electric Power Regulation
Office of Fossil Energy, FE-27
U. S. Department of Energy
1000 Independence Ave., S. W.
Washington, D. C. 20585

Dear Dr. Pell,

1 At one of the Green Valley, Arizona meetings concerning Tucson Electric Power line route proposals, we were advised to submit repetition of our reactions to the TEP proposal. I favor the No Action response to the proposal. At the meeting persons with technical and legal backgrounds raised serious problems with the proposal. Must this problem be dragged into court?

2 If more electricity is needed in Nogales, Arizona why not build a generating plant there? Reportedly one company is prepared to do so. Grid failures and other factors justify reducing dependence on long distance transmission lines and complex connections across distant communities. Roy McAlister, a former professor at Arizona State University, advocates use of hydrogen power in his book *The Solar Hydrogen Civilization*. Is this the time for TEP or a
3 different company to get into the use of hydrogen for power generation?

4 I continue to be concerned about preservation of Sycamore Canyon and other locales important for the understanding of nature as well as for their beauty. In an earlier letter I cited *Science* relative to Federal Communication Commission concerns about the impact of power lines on bird life. At the Green Valley meeting someone commented that those lines are also a threat to low flying military aircraft in the area. The next day I heard on the news that a military plane had crashed following impact with power lines in Arizona.

5 Use of the proposed lines to transmit power from Mexico to the U.S. was considered outside the scope of the environmental impact statement even though air pollution traveling from power generation plants in Mexico to California is a serious problem. The *Arizona Daily Star* for September 26, 03 cited a TEP spokesman as saying that the TEP project would permit Tucson to buy power from the south even though the building of power lines in Mexico would be forestalled. Strange. And what does forestalled mean?

Comment No. 1

The Federal agencies note the commentor's preference for the No Action Alternative.

Comment No. 2

The ACC is vested with the state's authority to decide how it believes energy should be furnished within Arizona's borders (for example, the need for and effectiveness of transmission lines within its borders). Refer to the revised text in Section 1.1.2, The Origin of TEP's Proposal: TEP's Business Plan and the Proceedings of the Arizona Corporation Committee, that provides explanation of the jurisdictions and authorities of the state and Federal agencies, and their relationship to this NEPA analysis.

A new power plant in Nogales is not a viable alternative to a new, second transmission line (part of TEP's proposal). Therefore, the alternative of a new power plant is not evaluated in detail in this EIS (refer also to Section 2.1.5, Alternatives Considered But Eliminated From Further Analysis).

Comment No. 3

Alternative power supply means such as hydrogen power do not meet TEP's proposal and are thus not evaluated in this EIS.

Comment No. 4

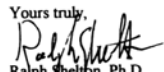
Section 3.1.1, Land Use, discusses the affected environment including nature study areas such as the Chiltipene Botanical Area and the Goodding Research Natural Area (including Sycamore Canyon). The structure locations, construction areas, and proposed access roads for all three corridors would not enter into any of these specially designated areas.

Sections 3.2 and 4.2 present discussion of the existing visual resources and potential impacts to these resources for each alternative.

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I was told that Mr. McGee is no longer in charge of this issue for the forest service, but I'm not informed about who took his place. I'll send a copy of this to Forest Supervisor

6 | Opposition to the Western route is close to universal among those of us who live in that area.

Yours truly,

Ralph Shelton, Ph.D.
P. O. Box 578
Arivaca, Arizona 85601

Copy: Forest Supervisor
U.S. Forest Service
300 West Congress
Tucson, Arizona 85701

Comment No. 4 (continued)

Regarding potential impacts on birds, refer to the response to Comment 1 in the previous submittal from Ralph Shelton.

As presented in Chapter 10 and Appendix A of the Final EIS, the Federal agencies and TEP had initiated consultation with Davis Monthan Air Force Base regarding potential impacts of the proposed transmission line on military flight operation. In response to the consultation, the Davis Monthan Air Force Base stated no relevant issues with any of the proposed corridors. The proposed Western Corridor could impact the FUZZY Military Operating Area, controlled by the 162nd FG Airspace in Tucson. Subsequently, information regarding the proposed project has been forwarded to the 162nd FG Airspace Manager and a copy of the Draft EIS has been sent for review and comment. No comment has been received.

Comment No. 5

The Federal agencies do not have any information suggesting that any power plant construction in Mexico is reliant upon or otherwise connected to TEP's proposed project. Therefore, the potential for construction of power plants in Mexico is not a connected action and is not analyzed in Chapter 4, Environmental Effects, of the EIS.

Chapter 5, Cumulative Effects, of the Final EIS has been augmented to discuss the growth of electricity demand in Mexico and the United States and the potential for new power plants, and to describe qualitatively the potential impacts in the United States (including air quality impacts) from power plant construction in southern Arizona and Sonora, Mexico. Chapter 5 has also been revised to describe the regulation of power plants in Mexico (including coordination between the United States and Mexico), potential fuel sources, and associated emissions.

Comment No. 5 (continued)

Section 1.1.1, The Proposed Action, has been revised in the Final EIS to clarify that the 345-kV transmission line that TEP proposes to construct would go just across the U.S.-Mexico border, where it would likely connect to another transmission line (that would most likely be constructed by CFE, but may be constructed by TEP).

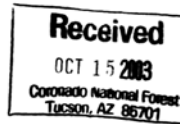
Comment No. 6

The Federal agencies note the commentor's statement that the opposition to the Western Corridor is nearly universal among those who live in that area.

Shumaker, Jon
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P.O. Box 150
Arizona City AZ 85223

Attention: Acting Forest Supervisor
Coronado National Forest
US Forest Service
300 West Congress
Tucson AZ 85701



10/13/03

Dear Acting Forest Supervisor:

This letter pertains to a document entitled "Tucson Electric Power Company Sahuarita-Nogales Transmission Line Draft Environmental Impact Statement."

1 I hereby respectfully request that the Land and Resource Management Plan (Forest plan)
2 for the Coronado National Forest NOT be amended for the purpose of building this
project. I have reviewed the Draft EIS (DEIS) and have found it to be completely
inadequate on multiple levels. As one major example of this, there has been no complete
cultural resource survey done of any of the proposed alternatives. This alone voids the
DEIS and any decision on it with the exception of the no action alternative. My
comments on the DEIS have been submitted to the Department of Energy and are
available should you wish to review them.

3 As you know, Federal Agencies have an obligation to act in the best interests of all their
constituents. The National Forests are a resource of national significance. The proposed
project is a local issue designed to profit a pair of companies rather than address a public
need. There are several alternatives to the proposed action, not included in the current
DEIS, that would appropriately solve the existing electrical problem without the
significant environmental impacts to the forest. There are many places to put a
transmission line, but the forests are fixed and cannot be moved elsewhere.

Thank you for considering my comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Jon M. Shumaker".

Jon M. Shumaker

Comment No. 1

The Federal agencies note the commentor's request that the Forest Plan not be amended for the proposed project.

Comment No. 2

The Draft EIS was prepared in accordance with Section 102(2)(c) of NEPA, the Council of Environmental Quality (CEQ) regulations (40 *Code of Federal Regulations* [CFR] Parts 1500-1508), and all applicable laws, regulations, and agency policies. The Federal agencies have determined that the Draft EIS does not need to be re-issued for additional review.

If an action alternative is selected, the Federal agencies will follow a Programmatic Agreement with the Arizona State Historic Preservation Office (SHPO), interested tribes, and TEP guiding the treatment of cultural resources. Prior to ground-disturbing activities in any approved corridor, a complete on-the-ground inventory would be conducted by professional archaeologists in accordance with provisions of Section 106 of the National Historic Preservation Act (NHPA). Efforts to identify cultural resources would also include historical document research and continued consultation with Native American tribes regarding potential traditional cultural properties and sacred sites. Identified cultural resources would be evaluated in terms of National Register eligibility criteria and potential project effects in consultation with all parties who are participants in the Programmatic Agreement.

Wherever possible, power poles, access roads, and any other ground-disturbing activities would be placed to avoid direct impacts to cultural resources. A professional archaeologist would assist the pole-siting crew in avoiding impacts to cultural resource sites. In cases where avoidance of sites is not feasible, a site-specific Treatment Plan and Data Recovery Plan would be developed in consultation with tribes, the appropriate land-managing agencies, and the Arizona SHPO. These plans will include an appropriate Plan of Action to implement the Native American Graves Protection and Repatriation Act. A Discovery Plan would be developed to establish procedures to be followed in the event of discovery of unanticipated cultural resources, and a Monitoring Plan would address issues of site protection and avoidance.

Comment No. 3

Section 1.2.2 of the Final EIS explains the Federal agencies' purpose and need and their authorizing actions for the proposed project. The purpose and need for USFS action is to determine whether the proposed project development is appropriate within the Tumacacori EMA within the Coronado National Forest.

Potential economic benefit to TEP from the proposed project is outside the scope of the EIS.

Section 1.2 of the Final EIS explains the roles of TEP and the Federal agencies in developing alternatives for the proposed project. Where an applicant seeks a permit for a particular business project, such as the case with TEP's proposed project, the Federal agencies generally limit their review of alternatives to those that would satisfy the applicant's proposal and decide whether that proposal is or is not worthy of receiving a permit. The Federal agencies do not review alternatives that are not within the scope of the applicant's proposal. Similarly, the agencies do not direct the applicant to alter its proposal; instead, the agencies decide whether a permit is appropriate for the proposal as the applicant envisions it. It is not for the agency to run the applicant's business and to change the applicant's proposal, but only to evaluate the environmental effects of the applicant's business proposal as offered. Accordingly, the EIS evaluates a reasonable range of alternatives, which include the full spectrum of alternatives that would satisfy the applicant's proposal.

Shumaker, Jon
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Dr. Jerry Pell, Manager
Office of Electric Power Regulation
Fossil Energy, FE-27
US Department of Energy
Washington DC 20585
10/13/03

Dr. Pell:

This letter contains my comments on a document entitled
“Tucson Electric Power Company Sahuarita-Nogales
Transmission Line Draft Environmental Impact Statement.”

I hereby respectfully request that the US Department of
Energy (DOE) choose the “No Action Alternative” for this
project. The above-named EIS in its present form
completely fails to adequately follow both the
1 spirit and the letter of the National Environmental Policy
Act (NEPA), and is completely inadequate as a justification
for the proposed action(s). The DOE has an obligation to
look out for the best interests of the public at large, not
simply that of specific corporations or business interests.

The document does not adequately address the purpose and
need for this undertaking. It simply describes what is
2 desired by TEP-Citizens. It does not adequately address a
range of alternatives that are reasonable, prudent,
practicable, or that would minimize impacts on
the region’s environment. The purpose and need are not
rigorously described and are misleading at best.

Not all parts or phases of the proposed action are described
adequately in the document. This project sets up
3 infrastructure that will lead to other significant impacts in
both the United States and Mexico which have not been
adequately described or analyzed, such as

Comment No. 1

The Draft EIS was prepared in accordance with Section 102(2)(c) of NEPA, the Council of Environmental Quality (CEQ) regulations (40 *Code of Federal Regulations* [CFR] Parts 1500-1508), and all applicable laws, regulations, and agency policies. The Federal agencies have determined that the Draft EIS does not need to be re-issued for additional review.

The purpose of the EIS is to evaluate and disclose the environmental impacts of TEP’s proposed project and the No Action Alternative for use by the Federal agencies to make their decisions from among the alternatives in their respective RODs (see Section 1.6.6).

Section 1.2.2.1 explains that the purpose and need for DOE action is to determine whether it is in the public interest to grant or deny a Presidential Permit to TEP for the construction, operation, maintenance, and connection of the proposed 345-kV transmission line.

Shumaker, Jon
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| 3
cont. | <p>new power plants that would be built on either side of the border, or development resulting from bringing so much power into the region.</p> <p>The document does not adequately or rigorously explore or objectively evaluate all reasonable alternatives. The listed alternatives do not include less environmentally sensitive alternatives that were arbitrarily and capriciously removed from consideration. This is entirely against both the spirit and the letter of NEPA. DOE is responsible for looking at a panel of reasonable alternatives.</p> |
| 2
cont. | <p>Because the purpose and need is not clearly explicated, the alternatives are inadequate for addressing that purpose and need. If the object of the project is to provide power to Santa Cruz County, why then is a Presidential Permit necessary?</p> <p>The alternatives, rather than minimizing or avoiding significant environmental impacts, actually maximize those impacts and have been sited within the most environmentally sensitive areas. This is a stunning misinterpretation of NEPA for which DOE should be held responsible as lead agency.</p> |
| 4 | <p>The alternatives have not been rigorously or objectively evaluated. As an example, NONE of the routes has been subjected to a full cultural resources survey. How can alternatives be rigorously or objectively evaluated if there is no baseline data? This is a stunning omission. Knowing where the resources to be impacted are located is one of the basics required for an EIS and this has not been done. The three routes in the DEIS have had less than 15% of their routes surveyed by professional archaeologists. This is wholly inadequate. And what about the alternatives that</p> |

Comment No. 2

Section 1.2 of the Final EIS explains the roles of the Federal agencies in developing alternatives for the proposed project. Where an applicant seeks a permit for a particular business project, such as the case with TEP's proposed project, the Federal agencies generally limit their review of alternatives to those that would satisfy the applicant's proposal and decide whether that proposal is or is not worthy of receiving a permit. The Federal agencies do not review alternatives that are not within the scope of the applicant's proposal. Similarly, the agencies do not direct the applicant to alter its proposal; instead, the agencies decide whether a permit is appropriate for the proposal as the applicant envisions it. It is not for the agency to run the applicant's business and to change the applicant's proposal, but only to evaluate the environmental effects of the applicant's business proposal as offered. Accordingly, the EIS evaluates a reasonable range of alternatives, which include the full spectrum of alternatives that would satisfy the applicant's proposal. A Presidential Permit is required because, under Executive Order 10485 of September 3, 1953, as amended by Executive Order 12038 of February 3, 1978, no one may construct, connect, operate, or maintain facilities at the U.S. international border for the transmission of electric energy between the United States and a foreign country without first obtaining a Presidential Permit from DOE, and accordingly, TEP applied to DOE for a Presidential Permit for their proposed project (see Section 1.1, Introduction).

Comment No. 3

This EIS evaluates the environmental impacts of TEP's proposed project and any connected or other past, present, or future actions that are reasonably foreseeable. The Federal agencies do not have any information suggesting that any power plant construction in Mexico or the United States is reliant upon or otherwise connected to TEP's proposed project. Therefore, the potential for construction of power plants in Mexico or the United States is not a connected action and is not analyzed in Chapter 4, Environmental Effects, of the EIS.

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cont.

were never looked at in the first place? Perhaps they have significantly smaller environmental impacts, but this was never examined.

The explanations for why certain alternatives were dropped are wholly inadequate. Again, the remaining alternatives have been placed within the most environmentally sensitive possible areas in the entire region. And nowhere has the issue of cultural resources been looked at adequately.

The document does not adequately evaluate all foreseeable direct and indirect impacts. Again, if the locations of historic properties are not known due to failure to adequately survey, how then can impacts to those properties be adequately evaluated for direct impacts, much less indirect impacts? This document fails to do what it is supposed to do.

5

The document fails to address the issue of continuing habitat fragmentation in the region and how this project will exacerbate that trend. Long linear projects such as this carve up once connected habitat into fragments, which significantly impact the biodiversity of the region. This is not something that can be mitigated.

6

The discussion of unavoidable adverse environmental impacts is inadequate. The discussion on cultural resources, for example, only attempts to address vehicular impacts.

7

The cumulative impacts of past, present, and reasonable foreseeable future impacts have not been adequately evaluated for any of the alternatives, including the ones arbitrarily discarded. For example, the roads and access routes necessary for this project will have significant and severe consequences for the future, as these routes will, intentionally or unintentionally, open up previously

Comment No. 3 (continued)

Chapter 5, Cumulative Effects, of the Final EIS has been augmented to discuss the growth of electricity demand in Mexico and the United States and the potential for new power plants, and to describe qualitatively the potential impacts in the United States (including air quality impacts) from power plant construction in southern Arizona and Sonora, Mexico. Chapter 5 has also been revised to describe the regulation of power plants in Mexico (including coordination between the United States and Mexico), potential fuel sources, and associated emissions.

Comment No. 4

Refer to the response to Comment 2 above regarding the procedures for the inventory and treatment of cultural resources.

Cultural, biological, and visual resource specialists, would be involved in the final placement of the 125-ft (38-m) ROW within the 0.25-mi (0.40-km) wide study corridors, and the siting of the support structures within the ROW, to identify and minimize impacts to each area of land to be disturbed. This would occur after each agency has issued a ROD, as stated in Section 3.1.1, Land Use.

Comment No. 5

Sections 3.3.2 and 4.3.2 of the Final EIS have been revised to address habitat fragmentation, specifically with respect to roads and linear corridors such as those associated with the proposed project.

As discussed in Section 4.3.1, the proposed project would not alter the convergence of the climatic zones, topographic relief, variable geology and

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cont. | protected and unspoiled areas to motorized traffic, UDA traffic, and associated noise, pollution, and other greatly increased human impacts. Nowhere does it appear that the CEQ handbook “Considering Cumulative Affects Under the National Environmental Policy Act” was actually utilized in preparing a comprehensive analysis of cumulative impacts, and this shows in the completely inadequate analysis of impacts. And again, without basic cultural resource survey data, how can impacts be adequately analyzed without baseline data regarding what’s out there? |
| 4
cont. | Impacts to cultural resources were not, as noted, evaluated because no archaeological survey work was ever done. Statistically guessing where sites might be is an unacceptable and scientifically invalid way to identify historic properties, much less evaluate impacts to those sites. Environmental justice impacts for the town of Arivaca were never adequately evaluated. Impacts to the proposed Santa Cruz Valley National Heritage Area were never evaluated. Impacts to the cultural landscape can’t be evaluated due to no data on cultural sites. Why the omissions? |
| 10 | Reasonable and appropriate scientific methods were not adequately applied to the evaluation of environmental impacts. For example, no cultural resource survey was ever done for any of the proposed alternatives. This immediately invalidates the DEIS, the process, and any final decision other than the no action alternative. Guessing where sites are is not scientifically acceptable. Viewshed analysis is entirely inadequate in this document and seems to be merely an attempt to justify what the project proponent wants. There is no adequate discussion of how the simulations were made, assumptions made, software used, procedures, etc. Considering that the visual impacts of this project are a |

Comment No. 5 (continued)

precipitation patterns on a scale that would cause a regional decline in biodiversity.

Comment No. 6

Chapter 6, Unavoidable Adverse Environmental Impacts, has been revised in the Final EIS to include a broader discussion of unavoidable adverse environmental impacts.

Comment No. 7

The Federal agencies followed the CEQ guidance *Considering Cumulative Effects Under the National Environmental Policy Act* (cited in the EIS as CEQ 1997b) to the extent feasible in conducting analysis of the cumulative effects of the proposed project. Chapter 5 of the EIS presents an analysis of cumulative impacts, as required under NEPA, that could occur as a result of the potential impacts of TEP’s proposed project when added to impacts from other past, present, and reasonably foreseeable future actions. Chapter 5 has been revised in the Final EIS to more fully evaluate cumulative impacts from actions that involve the use of roads and trails, including illegal immigrants and off-road vehicle use. Refer to the response to Sky Island Alliance, Comment 6, for further discussion on how cumulative impacts were evaluated in the Final EIS.

Alternatives are eliminated from detailed study for not being technically and economically feasible; it is these criteria, and not any sort of impacts analysis, that drives the process of eliminating alternatives from detailed analysis. CEQ regulations (1502.14[a]) only require a brief discussion of the reasons for which alternatives were eliminated from detailed analysis, rather than an in-depth analysis (including a cumulative effects analysis).

Comment No. 8

Section 3.13 discusses minority and low-income populations in the vicinity of the proposed project, including Arivaca, and Section 4.13 concludes that

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| 10
cont. | significant issue for members of the sensitive public, how is it that no adequate, scientific approach is described in the discussion and analysis of viewshed impacts? This too immediately invalidates the DEIS, the process, and any final decision other than the no action alternative. |
| 11 | The significance of each impact has not been adequately explained or well-documented. Again, in the case of cultural resources, if it is unknown what's out there, how can the impacts possibly be described or documented? |
| 2
cont. | The impact analyses appear to be biased and not objective. And without an adequate range of alternatives, the bias is even more apparent. |
| 12 | Native American concerns have apparently been neglected. There is zero documentation of Native American concerns beyond "they oppose it." No letters, no records of conversations or site visits, no feedback is present in the document. The DOE is required by law to consult on a nation-to-nation basis with the tribes and adequately address their concerns. This document appears to pay lip service to tribal consultation. |
| 13 | There appears to be no record of public comments in the document, whether from scoping, public meetings, meetings with agencies or tribes, etc. Additionally, public hearings on the DEIS were completely inadequate. They should also have been held in Tucson and Phoenix at times and places conducive to public input. Again, it appears that DOE is attempting to appease the project proponent rather than involve the public as per its obligation under NEPA. |
| 14 | There is no discussion of how approval of this project might affect approval of a transmission line from Palo Verde Nuclear Plant to Santa |

Comment No. 8 (continued)

there would be no disproportionately high and adverse impact to the minority or low-income populations.

Comment No. 9

The Federal agencies have evaluated in the EIS the potential impacts from the proposed project on the cultural, historical, biological, visual, and recreational resources cited by the commentor. Chapter 3 describes the affected environment of the Tumacacori Highlands and Santa Cruz Valley in the vicinity of the proposed project for each resource area. Chapter 4 evaluates the potential impacts from the proposed project on each resource area (refer to Sections 3.4 and 4.4, Cultural Resources; Sections 3.3 and 4.3, Biological Resources; Sections 3.2 and 4.2, Visual Resources; and Sections 3.1.2 and 4.1.2, Recreation).

The ongoing effort to designate the Santa Cruz Valley as a National Heritage Area is expected to be completed in 2005. The significance of this designation is to gain recognition of the area as having a diverse natural and cultural heritage. This designation would not create any new Federal, state, or local regulatory oversight over the area, and the designation is not expected to affect or be affected by the proposed project.

Comment No. 10

Refer to the response to Comment 1 for discussion on sufficiency of the Draft EIS, and refer to the response to Comment 4 above regarding the evaluation of cultural resources.

The text box titled "Preparation of the Photo Simulations" in Section 4.2, Visual Resources, describes the procedure used for preparation of these figures. The photo simulations in the EIS are included to portray the range of visual impacts of the proposed project, from wide-open to partially blocked views at a range of distances, covering the most likely viewing areas. The photo simulations are augmented by descriptions of the vegetation and land use; Scenic Integrity values; and maps of visibility and various visual attributes, to support analysis of visual impacts.

Comment No. 11

All environmental impacts are presented in Chapter 4 of the EIS. The significance of potential environmental impacts are determined by the Federal agency decisionmakers and presented in their respective RODs.

Comment No. 12

Sections 3.4.2 and 4.4.2 present the Native American concerns that were communicated by Native Americans during the formal government-to-government consultations. Table 3.4-1 documents the Tribal Officials Contacted by DOE in project scoping, and the reference cited as SWCA 2002c in the EIS contains a more complete record of tribal consultation activities.

Comment No. 13

Section 1.6 of the Final EIS has been revised to explain the process conducted by the Federal agencies to invite public participation in the NEPA process, per CEQ requirements. This section includes general information on the numbers of comments received, and those issues that were deemed in and out of scope. Refer to the response to Comment 12 above regarding documentation of Native American consultations.

The Draft EIS public hearing dates, times, and locations were selected to provide a range of options for interested parties to attend.

Comment No. 14

Whether or how the approval of the proposed project may affect the approval of a transmission line from Palo Verde Nuclear Plant to Santa Ana, Mexico, is speculative and is outside the scope of the EIS. Section 5.2 has been revised in the Final EIS to update the status of the PNM proposal

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cont.

Ana, Sonora, Mexico proposed by a company called Public Service of New Mexico (PNM). Approval of the TEP-Citizens project may pioneer a corridor for this other project, which has its own significant environmental impacts elsewhere. The current project does not exist in a vacuum, yet DOE seems to think it does. These larger impacts must be identified and evaluated.

15

The bulk of the project's power is intended for the Republic of Mexico. Thus the majority of purpose and need is for another country? This is inappropriate, as the real purpose and need was to stabilize the Santa Cruz County electrical system. And by focusing upon the real purpose and need, there can be other alternatives identified that have significantly less environmental impacts than what is proposed in the current DEIS.

16

It is noted early in the DEIS that TEP-Citizens may face financial penalties as a result of violating an order of the AZ Corporation Commission (ACC). It should be noted that a failure to plan appropriately on the part of the utilities does NOT constitute an emergency on the part of either the agencies involved in this project, the public, or with regard to impacts on the environment. This project, which far exceeds what TEP-Citizens is required to provide by the ACC, is a WANT, not a need. The environmental impacts of this project do not in any way justify fulfillment of a want by sacrificing the public's interest in protecting the environment as envisioned in NEPA.

17

Nowhere in the document are transboundary impacts of the project adequately identified or analyzed. Because the project is intended to cross the border, this is a particularly

Comment No. 15

TEP's purpose and need for the proposed project, as provided to DOE in TEP's Presidential Permit Application, is "...to construct a double-circuit 345 kV, alternating current transmission line to interconnect the existing electrical systems of TEP and Citizens Utilities ("Citizens") in Nogales, Arizona, with a further interconnection to be made from Nogales, Arizona to the CFE transmission system...." In an applicant-initiated process, such as TEP's proposed project, the range of reasonable alternatives analyzed in detail in the EIS is directly related to the applicant's purpose and need. Refer to the revised text in Section 1.1.2, The Origin of TEP's Proposal: TEP's Business Plan and the Proceedings of the Arizona Corporation Committee, that provides explanation of the jurisdictions and authorities of the state and Federal agencies, and their relationship to this NEPA analysis. Also refer to the response to Comment 2 above regarding the alternatives evaluated.

Comment No. 16

The potential for penalties to TEP for failing to comply with ACC Decision No. 62011 (see Section 1.1.2) is provided as background information on the proposed project, but does not affect the Federal agencies' evaluation of the potential environmental impacts of the proposed project in the EIS.

ACC Decision No. 62011 (ACC 1999) mandates the construction of a second transmission line to serve customers in Santa Cruz County, and does not reference the export of electricity to Mexico. However, TEP's stated purpose and need for the proposed project is a dual purpose and need of benefiting both southern Arizona and Mexico.

Comment No. 17

Section 4.8.3, PM₁₀ Contributions from Transmission Line Construction in Mexico, in the Draft EIS analyzes air quality impacts in the United States that could result from construction of a connecting transmission line in Mexico. Any additional analysis of impacts that could occur as a result of a new transmission line or other actions in Mexico would be speculative, and therefore, is not included in this EIS.

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cont.

egregious omission. Again, this invalidates the DEIS, the process, and and decision other than the no-action alternative.

18

Nowhere is there an adequate discussion of existing agency land-use management plans, potential conflicts, or how conflicts would be addressed or mitigated.

1
cont.

To summarize, this is a huge, confusing, inadequate, poorly thought out, and poorly prepared document. The more one looks, the more inadequate it becomes and the more questions that arise. Because of the document's deficiencies, a finding for the no action alternative is prudent and appropriate. Nothing about this project justifies the environmental impacts that would occur, in spite of the current document's deficiencies.

Thank you for considering my comments.

Sincerely,

Jon M. Shumaker

Comment No. 18

Sections 3.1.1 and 4.1.1 include a description of the existing land use management plans, and analyze potential impacts to these plans from the proposed project.

skyblue46@juno.com (Lee Shainen)
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Comment No. 1

The Federal agencies note the commentor's opposition to the proposed transmission line crossing public land.

From: skyblue46@juno.com
Sent: Friday, October 03, 2003 1:52 PM
To: Pell, Jerry; ducote@azstarnet.com
Subject: Fw: power lines and vistas

1 | I couldn't have said it better! PLEASE NO MORE POWER
| LINES CROSSING PUBLIC LAND!
| ----- Forwarded Message -----
| below is a letter i sent to the dept of energy regarding the
| power lines crossing public lands. they are taking letters until
| oct. 14th. if you have any concerns about this, now is the
| time to speak. thanks, lee